

STATE OF VERMONT  
PUBLIC SERVICE BOARD

Docket No. 7158

Petition of Washington Electric Cooperative,     )  
Inc., for a certificate of public good authorizing    )  
the reconstruction of the Maple Corner             )  
substation   )

Order entered: 4/28/2006

**I. INTRODUCTION**

This case involves a petition filed on February 9, 2006, by Washington Electric Cooperative, Inc. ("WEC"), requesting a certificate of public good ("CPG") pursuant to 30 V.S.A. § 248(j) for the reconstruction and expansion of the WEC Maple Corner substation located in Calais, Vermont.

On February 9, 2006, WEC filed the petition, prefiled testimony, and proposed findings with the Public Service Board ("Board"), the Vermont Department of Public Service ("DPS") and the Vermont Agency of Natural Resources ("ANR"), as specified in 30 V.S.A. § 248(a)(4)(C), pursuant to the requirements of 30 V.S.A. § 248(j)(2).

On February 22, 2006, the Board requested that WEC submit additional information regarding the proposed project prior to processing the application.<sup>1</sup> On March 16, 2006, WEC filed supplemental information in response to the Board's request.

Notice of the filing in this Docket was sent on March 24, 2006, to all parties specified in

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1. The Board specifically requested that WEC address each of the 14 criteria of 10 V.S.A. § 1424a(d) concerning outstanding resource waters in order for the Board to process the petition. Subsequently, the Board determined that it would institute an interim process for addressing these criteria until draft rule 5.400 is finalized. In the interim, the Board determined that it would not require petitioners to address each criteria of § 1424a(d) for each body of water affected by a proposed project, until the Board provided further guidance on this issue. This project, as further discussed below, will not impact any outstanding resource waters. For the foregoing reasons, it is not necessary to address the individual criteria of § 1424a(d).

30 V.S.A. § 248(a)(4)(C) and all other interested persons. The notice stated that any party wishing to submit comments as to whether the petition raises a significant issue with respect to the substantive criteria of 30 V.S.A. § 248 must file their comments with the Board on or before April 21, 2006. Notice of the filing, with a request for comments on or before April 21, 2006, was also published in the *The Times-Argus* newspaper, on March 25, 2006, and April 1, 2006.

The DPS filed comments with the Board on April 21, 2006, stating that the project does not raise any significant issues with respect to criteria of 30 V.S.A. § 248(j). The DPS does not oppose the issuance of the CPG.

The DPS filed a Determination letter under 30 V.S.A. § 202(f) on April 26, 2006. The letter stated that the proposed project is consistent with the Vermont Twenty-Year Electric Plan for the State.

No other comments have been filed.

The Board has reviewed the petition and accompanying documents and agrees that, pursuant to 30 V.S.A. § 248(j), a CPG should be issued without the notice and hearings otherwise required by 30 V.S.A. § 248.

## **II. FINDINGS**

Based upon the petition and accompanying documents, the Board hereby makes the following findings in this matter.

1. WEC is a duly organized public service cooperative, subject to the Board's jurisdiction, with its principal place of business in East Montpelier, Vermont. Petition at 1.
2. WEC owns and operates a substation located at Maple Corner, 417 Kent Hill Road, in Calais, Vermont, which provides electrical service to residents and businesses in the towns of Calais, Middlesex, Worcester, and parts of East Montpelier (hereinafter "Maple Corner Substation"). The current substation contains three 500 kVa transformers to provide electrical transformation from WEC's nine-mile 34.5 kV transmission line to three 12.5 kV distribution feeders. Weston pf. at 2-3; Kischko pf. at 2-3; WEC Exh. 13
3. The proposed project involves the replacement of the existing substation. The existing substation must be replaced because its wooden support structure has deteriorated beyond

reasonable economic repair. The substation also lacks adequate, safe working clearances to energized "live" parts, and an oil spill containment system. In addition, the transformers have reached the end of their useful life cycle. Kischko pf. at 3-4; Weston pf. at 3.

4. The project will be built on the site of the existing substation and parking lot within WEC's existing 12.5 kV distribution and 34.5 kV transmission corridors. The substation fence will be expanded 32 feet into the existing parking lot of the substation to accommodate construction. The project will consist of replacing the existing wooden support structure with a compact steel structure. The existing transformers will be replaced by four new 833 kVa low-loss power transformers (including one spare). Individual circuit regulation, remote monitoring, and single phase protection will be utilized. The proposed substation will be built to allow for proper clearances, as well as the ability to place a portable substation in the event of a substation transformer failure. In addition, an oil containment system will be incorporated into the design. Kischko pf. at 3-5, Weston pf. at 3-5; WEC Exhs. 1(c)(2), 1(c)(4), 1(e)(4).

### **Orderly Development of the Region**

[30 V.S.A. § 248(b)(1)]

5. The proposed project will not unduly interfere with the orderly development of the region, with due consideration having been given to the recommendations of the municipal and regional planning commissions, the recommendations of municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality. This finding is supported by Findings 6-8, below.

6. The substation construction plans were presented and explained to the Town of Calais and the Central Vermont Regional Planning Commission. Neither entity has presented any objection to the project. Both entities have waived the 45-day advance notice requirement for reviewing the project as provided by 30 V.S.A. § 248(f). Weston pf. at 12; WEC Exhs. 6 & 7.

7. The proposed substation will be built on the site of the existing substation, which is less than one acre, and within WEC's existing distribution corridor. It will not effect primary agricultural soils or adversely impact wetlands or other sensitive or ecologically fragile areas. Weston pf. at 12; WEC Exhs. 1(c)(2), 1(c)(3), 10, 11, 12, and 14.

8. The new substation will provide for the current needs of the residents and businesses in the Town of Calais and surrounding areas. It will allow for additional electrical capacity to accommodate growth in the region. The increased capacity will also allow for redundant backup to distribution feeders currently served by WEC's Moretown and East Montpelier substations, thereby enhancing service reliability for WEC's members. Weston pf. 11-12; WEC Exh. 3(b).

### **Need For Present and Future Demand for Service**

[30 V.S.A. § 248(b)(2)]

9. The proposed project is required to meet the need for present and future demand for service which could not otherwise be provided in a more cost-effective manner through energy conservation programs and measures and energy efficiency and load management measures. Weston pf. at 6-7, 13; Crocket supp. pf. At 1-4; Ex. WEC 2. This finding is further supported by Findings 3 and 4, above.

### **System Stability and Reliability**

[30 V.S.A. § 248(b)(3)]

10. The proposed project will not adversely affect system stability and will ensure greater reliability. This finding is supported by Findings 11-13, below.

11. The substation will be taken off line for approximately 10 weeks during construction. Kischko pf. at 5.

12. During construction, WEC's customers will continue to receive their power otherwise served by the Maple Corner substation. Voltage at the ends of the affected circuits will be adequate. The Moretown and East Montpelier substations have a combined ability to absorb the load currently served by the Maple Corner substation. During construction, WEC's customers served by the Maple Corner substation will be minimally exposed to an increased risk of outages in the event adverse weather affects upstream protective devices. Crocket pf. at 3.

13. Reliability to WEC's member/customers served by the substation will be further enhanced by replacing an old facility with new equipment that has greater voltage capabilities. Weston pf. at 6, Kischko pf. at 4, Crocket pf. at 3.

**Economic Benefit to the State**

[30 V.S.A. § 248(b)(4)]

14. The project will result in an economic benefit to the state and its residents. This finding is supported by Findings 15-16, below.

15. The total construction cost for the construction of the substation is estimated at \$489,000. Weston pf. at 9-10.

16. The project will have an economic benefit to the State by reducing the number and duration of outages to approximately 810 residential and business members served by the Maple Corner substation. The new capacity will also accommodate anticipated growth in the region. In addition, the proposed substation's increased capacity will allow for redundant backup to distribution feeders served by WEC's Moretown and East Montpelier substations, thereby enhancing service reliability for WEC's members served by these respective substations. Weston pf. at 11.

**Aesthetics, Historic Sites, Air and  
Water Purity, the Natural Environment and Public**

**Health and Safety**

[30 V.S.A. § 248(b)(5)]

17. The project as proposed will not have an undue adverse effect on aesthetics, historic sites, air and water purity, the natural environment and the public health and safety. This finding is supported by Findings 18-53, below, which are based on the criteria specified in 10 V.S.A. §§1424a(d) and 6086(a)(1) through (8), 8(A) and (9)(K).

**Outstanding Resource Waters**

[10 V.S.A. § 1424a(d)]

18. The proposed project is not located on or near any Outstanding Resource Waters. Weston pf. at 16-17; Weston supp. pf. at 2-7; WEC Exh. 14.

**Water and Air Pollution**

[10 V.S.A. § 6086(a)(1)]

19. The project as proposed will not result in undue water or air pollution. This finding is supported by Findings 20-36, below.

**Headwaters**

[10 V.S.A. § 6086(a)(1)(A)]

20. The proposed project will not be located in a headwaters area. WEC Exhs. 8, 14.

21. Minimal earth disturbance along with the implementation of erosion control measures such as silt fence during construction, drainage swales, and stone check dams, will prevent undue impact upon an adjacent wetland and nearby stream. Weston pf. at 5, 18; WEC Exs. 1(c)(2), 1(c)(3), and 1(c)(4).

**Waste Disposal**

[10 V.S.A. § 6086(a)(1)(B)]

22. The proposed project as designed will meet any applicable health and environmental conservation regulations regarding the disposal of wastes, and will not involve the injection of waste materials or any harmful or toxic substances into ground water or wells. This finding is supported by Findings 23-25, below.

23. There will be no discharge of any substance to surface or groundwater, either direct or indirect. Weston pf. at 18.

24. All construction debris will be disposed of at a State approved landfill or recycled where possible. Weston pf. at 18.

25. The new substation will include an oil pit containment system. Any leak from a transformer will be collected in an impervious pit and piped to an underground oil/water separator tank. The transformer liquids or oil will be disposed of off site. Weston pf. at 18; WEC Exh. 1(c)(4).

**Water Conservation**

[10 V.S.A. § 6086(a)(1)(C)]

26. The project will not require the use of water. Weston pf. at 18-19.

**Floodways**

[10 V.S.A. § 6086(a)(1)(D)]

27. The project will not be located on a floodway. Weston pf. at 19; WEC Exh. 9.

**Streams**

[10 V.S.A. § 6086(a)(1)(E)]

28. No streams will be impacted by the proposed project. This finding is supported by Findings 29-30, below.

29. The site of the proposed project is approximately 50 feet away from a year-round stream. Weston pf. at 20; WEC Exhs. 1(c)(2), 1(c)(3), and 1(c)(4).

30. The project will be built on the existing site and not disturb any land outside of what is currently utilized. Erosion control measures such as silt fencing, drainage swales, and stone check dams will collect any runoff and insure that the preexisting drainage pattern remains the same. Weston pf. at 20; WEC Exhs. 1(c)(2), 1(c)(3), and 1(c)(4).

**Shorelines**

[10 V.S.A. § 6086(a)(1)(F)]

31. The project will not be located near any shorelines. Weston pf. at 20.

**Wetlands**

[10 V.S.A. § 6086(a)(1)(G)]

32. There are Class II wetlands adjacent to the substation site. Weston pf. at 21.

33. No dredging or fill of the wetland is proposed. An oil containment system will prevent any potential undue adverse impact from potential leakage. The erection of silt fencing at the edges of the construction area, along with draining swales and stone check dams surrounding the

substation, will prevent any undue adverse impact upon the wetlands from erosion or storm water runoff. Weston pf. at 21; WEC Exhs. 1(c)(2), 1(c)(3), and 1(c)(4).

34. The Vermont Agency of Natural Resources has determined that since the proposed project will remain within the current footprint of the substation and parking area, the project qualifies as maintenance of an existing structure and does not require a Conditional Use Determination. Weston pf. at 21; WEC Exh. 10.

#### **Air Pollution**

[10 V.S.A. § 6086(a)(1)]

35. The project will not result in unreasonable air pollution because there will be no emissions from the new substation. Weston pf. at 14.

#### **Sufficiency of Water and Burden on**

##### **Existing Water Supply**

[10 V.S.A. § 6086(a)(2)(3)]

36. The proposed project will not require the use of water and will, therefore, not place a burden on any existing water supply. Weston pf. at 18-19, 22.

#### **Soil Erosion**

[10 V.S.A. § 6086(a)(4)]

37. The new substation will not result in unreasonable soil erosion or reduce the ability of the land to hold water. This finding is supported by Findings 38-41, below.

38. Soil disturbance during construction will be minimal because the substation is being built on an existing substation site and parking lot. Weston pf. at 22.

39. Because construction will occur on the existing substation site and parking lot, there will be no new impervious areas to increase peak runoff from the site. Weston pf. at 14; WEC Ex. 1(c)(2).

40. The substation footprint will have a crushed stone surface that will detain runoff from extended storms. Weston pf. at 22-23.



41. Drainage swales and stone check dams surrounding the substation will collect any runoff and insure that the preexisting drainage pattern remains the same. Weston pf. at 22-23; WEC Exhs. 1(c)(2) and 1(c)(3).

### **Traffic**

[10 V.S.A. § 6086(a)(5)]

42. The proposed project will not cause unreasonable congestion or unsafe conditions with respect to transportation systems. This finding is supported by Findings 43-44, below.

43. There will be a minimal and temporary increase in truck traffic on Kent Hill Road during the construction period. Weston pf. at 23.

44. No other means of transportation will be affected by the project. Weston pf at 23.

### **Educational Services**

[10 V.S.A. § 6086(a)(6)]

45. The proposed project will have no impact on the ability of the involved municipality to provide educational services. Weston pf. at 24.

### **Municipal Services**

[10 V.S.A. § 6086(a)(7)]

46. The proposed project will not unreasonably burden the ability of any involved municipalities to provide municipal services. Weston pf. at 24.

### **Aesthetics, Historic Sites or Rare and Irreplaceable Natural Areas**

[10 V.S.A. § 6086(a)(8)]

47. The project as proposed will not have an undue adverse effect on the scenic or natural beauty, aesthetics, historic sites or rare and irreplaceable natural areas. This finding is supported by Findings 48-49, below.

48. The new substation is being constructed on the preexisting site of the current substation. While the new substation will replace the existing wood structure with a galvanized steel support structure, the project is not significantly larger in scope. The overall height is just three feet greater than the preexisting structure. The natural screen provided by the existing wetlands will remain undisturbed. Weston pf. at 25-26.

49. There are no historic, archeological, or rare and irreplaceable natural areas in the vicinity of this project. Weston pf. at 28; WEC Exhs. 11, 12.

### **Discussion**

\_\_\_\_\_Based on the above findings, we find that the proposed project will not have an undue adverse effect on the aesthetics or scenic and natural beauty of the area.

The Board has relied on the Environmental Board's methodology for determination of "undue" adverse effects on aesthetics and scenic and natural beauty as outlined in the so-called Quechee Lakes decision. Quechee Lakes Corporation, #3W0411-EB and 3W0439-EB, dated January 13, 1986. As required by this decision, it is first appropriate to determine if the impact of the project will be adverse. The project would have an adverse impact on the aesthetics of the area if its design is out of context or not in harmony with the area in which it is located. If it is found that the impact would be adverse, it is then necessary to determine that such an impact would be "undue." Such a finding would be required if the project violates a clear written community standard intended to preserve the aesthetics or scenic beauty of the area, if it would offend the sensibilities of the average person, or if generally available mitigating steps would not be taken to improve the harmony of the project with its surroundings. The Board's assessment of whether a particular project will have an "undue" adverse effect based on these standards should be significantly informed by the overall societal benefits of the project.<sup>2</sup>

Given the facts of this case, the aesthetic impact of the proposed substation reconstruction will be minimal because the site of the proposed project is a preexisting substation. The preexisting structure of the substation will be replaced with a new structure that is substantially

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2. Docket 6884, Order of 4/21/04 at 20-21.

similar. In addition, WEC has proposed to take all reasonable available mitigating steps to improve the harmony or fit of the project with its surroundings. Therefore, we conclude that the project will not have an adverse aesthetic impact.

**Necessary Wildlife Habitat and**

**Endangered Species**

[10 V.S.A. § 6086(a)(8)(A)]

50. The proposed project will not have an undue adverse impact on any necessary wildlife habitat or known endangered species sites. This finding is based on Findings 51-52, below.

51. There are no known rare and irreplaceable natural areas in the proximity of the proposed project. Weston pf. at 28; WEC Exh. 12.

52. There are no known wildlife habitats or endangered species in the immediate vicinity of the proposed project or that will be impacted adversely by the proposed project. Weston pf. at 28; WEC Exh. 12.

**Development Affecting Public Investments**

[10 V.S.A. § 6086(a)(9)(K)]

53. The proposed project will not unnecessarily or unreasonably endanger the public or quasi-public investments in any governmental public utility facilities, services, or lands, or materially jeopardize or interfere with the function, efficiency, or safety of, or the public's use or enjoyment of or access to such facilities, services, or lands. Weston pf. at 28.

**Consistency with Resource Selection**

**Least-Cost Integrated Resource Plan**

[30 V.S.A. § 248(b)(6)]

54. The project as proposed is consistent with WEC's Least-Cost Integrated Plan. Weston pf. at 6; Ex. WEC 2.

**Compliance With Electric Energy Plan**

[30 V.S.A. § 248(b)(7)]

55. The project as proposed is consistent with the 20-Year Electric Plan because WEC will (1) replace high loss transformers with efficient ones manufactured by Cooper Power Systems that were selected based on the no-load loss, load loss, and cost multipliers, as well as, the avoided cost inputs developed by the DPS; (2) use state-of-the-art programmable equipment; and (3) install circuit reclosers that provide fault-distance locating. Weston pf. at 6-8; WEC Ex. 3(a).

**Outstanding Resource Waters**

[30 V.S.A. § 248(b)(8)]

56. The proposed project is not located on or near any "Outstanding Water Resource" as designated by the State of Vermont Water Resources Board. Weston pf. at 16-17; WEC Exh. 14.

**Existing Transmission Facilities**

[30 V.S.A. § 248(b)(10)]

57. The proposed project can be served economically by existing transmission facilities without undue adverse effect on Vermont utilities or customers. Weston pf. at 9.

**IV. CONCLUSION**

Based upon all of the above evidence, the proposed construction will be of limited size and scope; the petition does not raise a significant issue with respect to the substantive criteria of 30 V.S.A. § 248; the public interest is satisfied by the procedures authorized in 30 V.S.A. § 248(j); and the proposed project will promote the general good of the state.

**V. ORDER**

IT IS HEREBY ORDERED, ADJUDGED AND DECREED by the Public Service Board of the State of Vermont that the proposed reconstruction and expansion of the Maple Corner substation in the Town of Calais, Vermont, in accordance with the evidence and plans submitted in this proceeding, will promote the general good of the State of Vermont in accordance with 30 V.S.A. § 248, and a certificate of public good to that effect shall be issued in this matter.

Dated at Montpelier, Vermont, this 28<sup>th</sup> day of April, 2006.

_____	)	
s/James Volz	)	
_____	)	PUBLIC SERVICE
s/David C. Coen	)	
_____	)	BOARD
s/John D. Burke	)	
_____	)	OF VERMONT

OFFICE OF THE CLERK

FILED: April 28, 2006

ATTEST: s/Judith C. Whitney  
Deputy Clerk of the Board

*NOTICE TO READERS: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Board (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: Clerk@psb.state.vt.us)*

*Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Board within thirty days. Appeal will not stay the effect of this Order, absent further Order by this Board or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Board within ten days of the date of this decision and order.*